

California Antique Radio Gazette

Official Journal, Southern California Antique Radio Society.

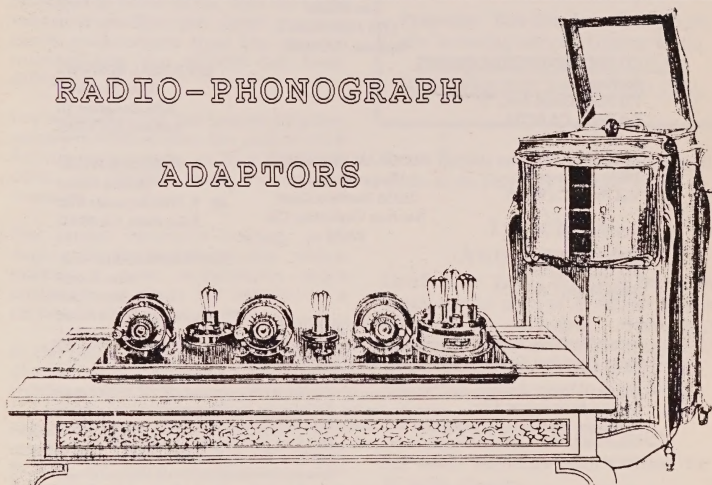
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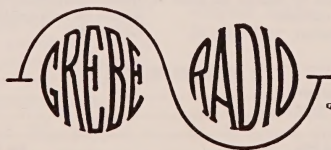
RADIO-PHONOGRAPH

ADAPTORS



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SOUTHERN CALIFORNIA ANTIQUE RADIO SOCIETY

Incorporated, Non-profit Organization

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SCARS is a non-profit organization. Its purpose is to preserve the history of wireless communication by encouraging the acquisition, preservation and exhibition of antique wireless and radio apparatus and publications pertaining to its history and development.

SCARS promotes social contacts through meetings held four times a year at various locations in Southern California. Featured at these meetings are contests, swap sessions and talks by members and guests on subjects of interest to collectors.

The club publishes quarterly the California Antique Radio Gazette which features news of club activities, hints on restoration, and advertisement of radio related items for sale or trade. It is furnished free to all members. Ads are printed free for members. SCARS assumes no responsibility for the condition of items sold at swap meets or through gazette ads.

Membership is open to anyone having a genuine interest in preserving equipment and history of early wireless and radio equipment. Dues are \$10.00 per calendar year.

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The opinions expressed in the Gazette are those of the authors and may not reflect the opinions of the editors or the SCARS membership.



President's Message

I am honored to be the new president of SCARS. I have been a member for years, and long marveled at how nicely the club worked. I have belonged to other clubs, that for some reason or another, just didn't generate much enthusiasm from the general membership; but SCARS has been different.

I've witnessed the the hoards of brave members who endure the cold of dark February mornings, so that they may offer, or obtain, some new radio treasure.

I've found members willing, even eager, to share information which makes a new acquisition more enjoyable, or share the location of a certain desired radio or part.

In the publication, I've learned what a diverse treasure-trove of knowledge resides within in the club. It would be a boring, and somewhat pointless organization if every member had exactly the same interests, but within SCARS we have all witnessed the diversity of interest which is represented by the membership. I imagine that it would be difficult to name any facet of the hobby which isn't embraced by one or more well-informed, fanatical members. It is this diversity and dedication which makes the club thrive, and I pledge to do all that I can to encourage this.

Bob Baumbach

Upcoming SCARS Meets:

February 9, 1991

VELVET TURTLE

3210 West Sepulveda Blvd.
Torrance, CA

7:00 AM Buy, sell and trade activities
11:00 AM Business Meeting
12:00 Noon Lunch and Program
1:30 PM Adjourn

Program: Bob Grinder will highlight the facinating story of Amateur Radio
BRING YOUR FAVORITE HAM RECEIVER FOR SHOW AND TELL

Note: Buyers and Sellers will be assessed \$3.00 at the February Meeting

Luncheon Announcement

Lunch at the Velvet Turtle will be offered at the special price of \$7.00 per person, tax and tip included. Send your reservations now to Murrel Crump, 1633 Buena Vista, Palm Springs, CA 92262. Make your checks payable to SCARS

GAZETTE DEADLINES

All ads, material and articles for SCARS *Gazette*:

February issueDecember 1
May issue March 1
August issueJune 1
November issueSeptember 1

MEMBERSHIP DUES

Effective immediately, send all new and renewal dues payments to:

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Burbank, CA 91505

MIDGET CAPITOL OF THE WORLD LISTING

By Floyd A. Paul

In the 1929 to 1931 era Los Angeles gained the reputation in contemporary magazines as "The Midget Capitol of the World." This credit was given because Los Angeles was first to design, make, and market midget/mantle sets. "Midget" was the name that caught on and was used in 1930 to describe the small table model sets, even though many of the cabinets were cathedral designs. Today, "cathedral" is a much more popular name for these sets.

The article, *Los Angeles, Midget Capitol of the World*, published in the November 1987 SCARS *Gazette*, may be read to gain an understanding of what a manufacturer, assembler, and distributor did in that

time frame, and to refresh memories of Gilfillan's unique role in the licensing process in Los Angeles.

Years of searching has gone into making the listing presented here. Since this article is about midget sets, no references are given to console sets made by any of the manufacturers. TRF sets were made during this entire era. Superheterodyne sets were made beginning in the early spring of 1930 when RCA released the rights to the circuit to the manufacturing trade to make and sell the sets.

Also, starting in about 1931, Pee Wees (or tiny midgets) were introduced. They were all TRF sets and typically used four tubes, usually two '24's, a '47, and an '80.

TRADE NAME(S) — Larger manufacturers/assemblers tended to have trade names and model numbers for their sets. Smaller companies tended to merely use the owner's name or the company name to identify a product.

PEOPLE — The listing is by no means complete. Names are owners, managers, engineers, technicians, testers, production people or sales people. Single name listings and first name(s) of a series tended to be owners. Some persons worked for more than one company and are so noted. (Example: Jerry Mendelsohn said he worked for three companies, even though some jobs lasted for a few months at the most.)

START DATES — Dates are taken from announcements and ads in contemporary magazines. Start dates should be taken as good estimates since there had to be omissions, errors, and misquotes in magazine articles. Also be aware that the lifetime for some companies was in the order of weeks or a few months. Old-time companies such as Jackson-Bell (1926) and Advance Electric (1919) were not the first companies to develop midget radios in Los Angeles. Other companies, like Gilfillan (1924) and Sheldon (1923) did not make midget radios at all during the 1929-1931 era.

LICENSED — Licensed companies were those businesses that took their components to Gilfillan Brothers to have the chassis assembled. As you will note, about one third of the Los Angeles radio manufacturers/assemblers did that. These licensed companies were generally the larger radio business firms.

NOTES — Model numbers and other comments.

Company	Trade Name(s)	People	Start date	Licensed	Notes
Adams		L. A. Adams E. D Soule S. S. Bliss	July 30	-	Phono Radio
Advance	Falck	Fritz Falck B.F. McNamee R. Stoehle	June 30	Y	Models 24, 27 77, 88, 89

Company	Trade Name(s)	People	Start date	Lic-ensed	Notes
American Labs	Novo Jr.	—	Jan. 31	—	Pee Wee
Arcadia	Allen	J.R. Allen	Mar. 31	—	City of Arcadia
Austin	TechniTone	H.C. Block E.B. Dunn Ralph Hetzel Jack Bloom Carl Odell Jerry Mendelsohn Al Spencer Burton Ellis "Nick" Hirant	Sept. 30	Y	Jr.
Avalon		Steinberger (goes to Kenwood) B.C. Bloedenl (From Zaney-Gill)	Oct. 30	—	
Brown & Manhart	Roamer La Fey Ranger		Dec. 30	—	Model 44 Changed name to Hoover May 31
California		Tom Reed (prev. Master and Taylor-Travers) Jack Dayton (prev. K-F)	Apr. 31	Y	Out of business July 1931
Cardinal	Cardinal	Long Dick Pribyl	Aug. 30	Y	Models 60, 70 71, 80, 82, 91 (Successor to Long)
Champion	Champion		June 30	—	Model S-2
Channing	Channing		June 30	Y	
Chief	Granada	J.E. Hawthorn Frank Moore D.S. Spooner W.M. Ehrich	Sept. 30	—	
Colbliss		Dunn (Prev. M-B)	Mar. 31	—	
Consolidated		Percy Fleming Herman Schmieter	Feb. 31	Y	Owned by M-B owners
Crane		H.D. Crane	May 31	—	Out of business July 31
Crowe			July 31	—	
Custon Built	Crown	Nick Hirart	Aug. 31	—	
Davidson-Haynes	Angelus, Air Pilot	Bob Haynes R. Hetzel Frank Davidson (prev. with Master)	Mar. 30	Y	Models 69, 89, 99
DeForest	Royale	C.W. Smith Lee DeForest Frank Hernandez (prev. M-B) George Stephenson	Sept. 30	Y	Out of business July 31
Deluxe		W. Sexton Don Walker	Late 30	—	
Down	No-Ellen	N.C. Down	Apr 31	—	
Dwarf			Mar. 31	—	Pee Wee

Company	Trade Name(s)	People	Start date	Lic- ensed	Notes
Echophone	Ufonic, Echophone, Air Chief Compact	A.U. Magnan L. Brittain Don Austin Don Dressen Bernard Smith Jerry Mendelsohn	Early 29	Y	Models 40, 60, 80, S-3, S-4, S-5, C
Elmore-Lambing	Singer		June 30	-	
El Rey	The King El Rey		1931	-	
Embassy	Air King, Celest	J. McCoy Ratner	Mar. 31	-	
Flint	Peter Pan, Dolores, Del Rey, Fantasy San Gabriel	Ray Stoeble	July 30	Y	Dec. 30- First mfr. to announce superhetrodyne. Merged with J-B August 1931.
Gilbert			June 30	-	Model 69. Closed Aug. 31.
Griffin-Smith	Royale, Golden Tone	Griffin Smith	Aug. 30	-	May have used M-B chassis.
Hayden	Radiochron	H.H. Hayden	May 30	-	Radio clock
Hollywood		Frank Damon	Mar. 31	-	
Hoover			May 31	-	Prev. B & M
Horn	Tiffany Tone	Herbert Horn L. Brittain Don Dressen Jack Fuller K. Ormiston	Sep. 30	Y	Models 15, 59, 79, 49
International	Pandora, Mogul, Westernaire	Dick Leitner	Aug. 31	Y	Successor to Westerner
Jackson-Bell	Peter Pan, Mellotone Trumpet-Tone Jackson-Bell	Jackson Herb Bell Dick Leitner Chet Chandler J. Mendelsohn John Miller Bell Brothers Bill Kennedy	Jan. 30	Y	Models 25, 50, 59, 62, 68, 69, 79, 84, 87, 88, 89 In July 1930 J-B Made Waltham and Tiffany-Tone chassis.
Keller-Fuller	Radiette	Boyd Fuller Harry Keller Chet Chandler Charles Miller Dan Clark Ralph Hetzel Jack Dayton Jerry Mendelsohn	Jan. 30	Y	Models 50, 60 Jr. Radiette Fuller resigns in Jan. 1932
Kemper	Kompak		Sep. 30	Y	Model 80
Kenwood		B.C. Bloeden (prev. Avalon) Z.G. Steinberger (prev. Avalon)	Mar. 31	-	Model 80
Longs	Cardinal	Dick Pribyl R.H. Meyers Long	May 30	Y	Became Cardinal
Los Angeles	Paramount		Apr. 31	-	

Company	Trade Name(s)	People	Start date	Lic- ensed	Notes
Master	Mighty Midget	William Read Elmer Reed (Tom) H.E. Howard Frank Davidson	May 30	Y	Models 70, 424 Quit business July 1931
Masterola		Ralph Cohen	May 31	-	
McGrew-Austin		Austin (prev. with Echophone)	May 31	-	
Mission Bell	Trinity, Florette, Freedson, Cathedral, Royale	E.B. Dunn Herman Schmieter Bert Frankel Frank Fernandez E.L. (Percy) Fleming	July 30	-	
Mozart			Jan. 31	-	
Pacific Coast Radio	Singer, Radiochron		Aug. 30	-	Clock model "Midgette" Quit Aug. 31.
Patterson	Sierra	Ray Gudie Emmett Patterson	Dec. 30	Y	Jr., 90
Peerless		Ferris Edwards	May 31	-	
Plymouth		L. Zaffuto Marshall S. Borden O. Diciolla C.F. Carlson W. Dorival K. Ormiston	Feb. 30	-	
Powell	Cathedral	Hayward and Channing Powell	Apr. 30	Y	
Radio Exchange	LaBelle (or Lebell)	LeBell	July 31	-	
Robertson		Ralph Robertson, Hayward & Channing Powell	ca 1930	-	
Seaboard			1931		Jr., Sr.
Seeley	Lark		Sep. 30	-	Models 5, 6
Taylor-Travers	Triumph	Tom Reed (went to California)	Sep. 30	-	
Trinity			Sep. 30	-	City of Santa Monica
Trojan		Joe Grisom Claud A. Burroughs Mark Borden (went to Plymouth)	Apr. 31	-	Tiny, Baby, Jr., Giant
Waltham	Metropolitan Runt	H.E. Howard (prev. Paramount) Joe Grisom (Went to Trojan)	May 30	Y	Models 31, A, The Little Aristocrat
Westerner	Papoose, Lyra-Tone	F.R. Smith	Spring 30	-	clock
Zaney-Gill	Music Box, Clarion, Claironette	Bob Haynes B. Bloeden (prev. K-F) Sol Zaney Ralph Hetzel Walter Pearson	Dec. 29	-	2445. By Dec. 30 Z-G was in Chicago.

Phonograph Adaptors

by Floyd Paul
and Robert Baumbach

Today, the phonograph and the radio are considered to be allied products. They are usually housed in common cabinets, and share many electronic components.

In the early 1920s, however, the phonograph and radio industries were bitter rivals. The radio boys were the new kids on the block, and the phonograph industry was not inclined to relinquish any market without a fight.

Forward thinking radio entrepreneurs, however, were willing to fill a void left by the reluctance of the phonograph industry to market combination instruments.

The products which were developed to unite radios and phonographs usually fell into two distinct categories:

1. Reproducers to play radio signals through phonograph horns (Usually in the battery era).
2. Electric Tone Arms to play records through a radio's amplifier (a year or two later, in the electrical era).

A survey of ads in contemporary magazines of the 1920s showed several companies developing a product line of radio-phonograph reproducers in late 1923. By 1924 dozens of manufacturers were marketing radio-phonograph reproducers. Three mounting configurations of the reproducers emerged:

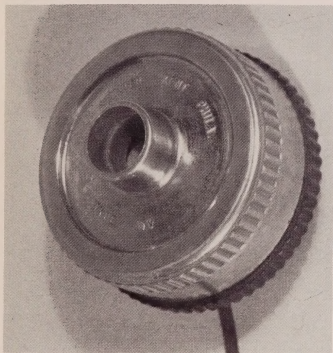
1. a transducer (reproducer) mounted on a stem with a base support (such as Western Electric or Red Seal).



2. a transducer turned horizontal with legs or feet for a tri-footed support (see Amplion).



3. a transducer whose shape approximated that of the phonograph sound box it replaced (see Atwater Kent unit).



The last configuration was cheaper to manufacture and often cost less; the AKs listed for \$4.75 to \$7.50. The vertical stem (neck) support on a base was a bit fancier, looked more aesthetically proper and was a bit more expensive, typically \$10.00 to \$12.00. The drivers were often finished in zinc plate, chrome plate, black crinkle paint, or even gold color to match the phonograph hardware.

American Electric Co. (Burns unit) was one of the earlier advertisers, but companies such as Holtzer-Cabot, CIC, and Rhamstine were out with a product line in early 1924. By 1925 more than a dozen manufacturers were making styles (1) and (3) as noted above. Some of the the larger and better known companies were Music Master, Western Electric, Magnavox, and Atwater Kent. Some of the lesser known companies were Dymac, Radiotive, Radioceive, Deveau, and Morrison. One author identified over

twenty three manufacturers in a quick search of several months in 1923-1925. This would suggest perhaps over fifty manufactures of reproducers. The quantity of companies in the business also suggests there was a very salable line of merchandise.

Radio-Phono reproducers were easily connected to a battery radio in 1924. Most units came with a three to nine foot phone cord and a pair of phone tips. The tips would be inserted into a phone plug and then plugged into an output stage jack. The lip of the transducer would fit into the phonograph pick-up arm (after removing the phonograph sound box), attaching an adaptor that could usually be purchased from the manufacturer (sometimes the buyer told the salesman what phonograph he had and an adaptor would be furnished). Many companies made adaptors to fit major phonograph makers. Baldwin, for example, advertised adaptors to fit Brunswick, Victor, Sonora, Edison, Cheney, Columbia as well as others. Prices for these adaptors were typically \$1.00, while other companies included the adaptor in the purchase price.

Radio-Phonograph transducers were not limited to the common types described above. One of the more interesting devices was a transducer which the phonograph's needle rested upon. The reproducer transformed electrical signals into mechanical vibrations which vibrated the phonograph needle and induced sound into the phonograph pickup arm directly as though the needle was in a record groove and vibrating the diaphragm (see photo of Dulce-Tone unit).

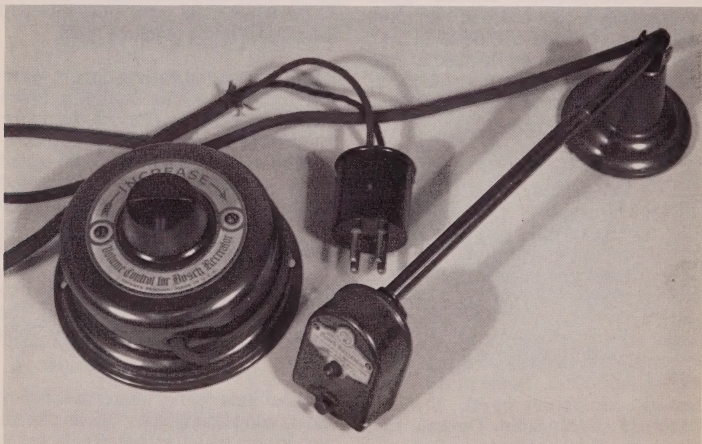
Another item for the interconnection of radios and phonographs was an electric pickup arm which mounted adjacent to



(or in place of) the phonograph pick-up arm and sent electrical signals through a cable into a radio's input audio stage. One such unit from American-Bosch is illustrated.

Since radio earphone and horn speaker drivers and radio-phonograph drivers came off the same assembly line and often the only difference was the adaptor lip (or coupler), the quality of

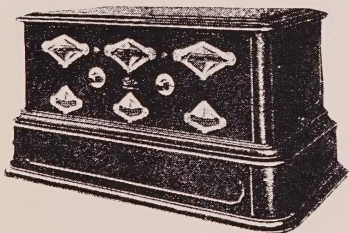
Cont. on page 16



Alfred H. Grebe: Pioneer Manufacturer of Amateur Short-wave receivers

by Robert E. Grinder, K7AK

Of the myriad broadcast receivers manufactured in the 1920s, the "synchrophase" models of Alfred H. Grebe best approximate state-of-the-art perfection in construction and design. Grebe designed his basic model, the MU-1, after the mythical Dr. Mu, who appeared in his magazine advertisements as a sagacious Chinese gentleman. The MU-1, for example, was designed around "binocular" coils for stability and "straight-line" variable condensers for tuning from one end of the dial to the other in equal divisions. Tuning condensers were mounted vertically and incorporated a friction vernier shaft for precise adjustment. Both tuning and vernier dials projected horizontally through 24 karat gold covered escutcheon plates. (see accompanying picture) ¹



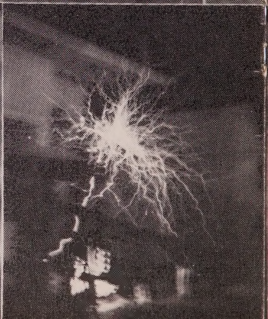
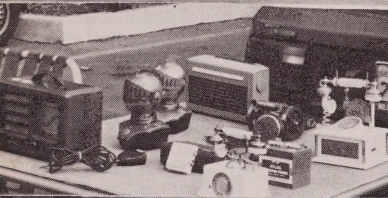
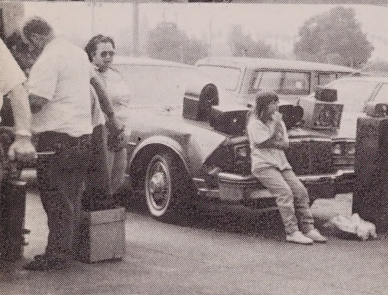
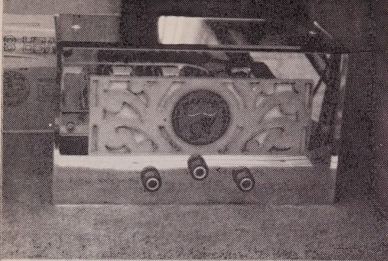
Grebe controlled every aspect of production, from the smallest screw and washer to the largest condenser and coil in his self-contained manufacturing plant. He even heated, pressurized, and molded powered Bakelite dust to create variometer frames, sockets, dials, and panels.

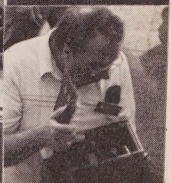
Grebe believed, in true Horatio Alger fashion, that perfection evolved from doing little things well.

Grebe was born in Richmond Hill, New York, in 1895. The MU-1 was first introduced in 1924, when he was only 29 years of age. Competition was fierce at the time; older, highly sophisticated radio designers employed by rivals, challenged him unmercifully in the marketplace. Nothing they could manufacture, however, excelled the synchrophase models in sensitivity, selectivity, and distinctiveness.

Grebe knew both theory and art of receiver development better than anyone of his time. Indeed, no other manufacturer had acquired as much personal, direct experience as had Grebe. As early as 1909 he had built loose couplers in a backyard workshop and sold them to friends. He was only 14 years old. When he was 15, he handled relay traffic at a 2LH's amateur station. For a few years, from 1911 to 1914, Grebe traveled the high seas as a wireless operator. Upon returning to New York, he found that that interest in wireless communication had grown apace. Amateurs encouraged him to build receivers to meet the new demand, and by 1916, at age 21, Grebe had the AGP line of regenerative receivers in production. (AGP stood for Armstrong-Grebe-Pacent; Edwin Armstrong, Grebe's close friend, held the patent, Grebe, the manufacturing line, and Pacent, the merchandising rights). ²

Grebe's attention was diverted for a time by the demands of WW1. From 1919 until 1928, however, between his twenty-fourth and thirty-third year, Grebe manufactured short-wave tuners and receivers, from the CR-1 to the CR-19, primarily for the amateur market. Grebe used his awareness of





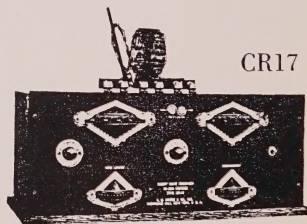
the problems of wireless reception, which he had acquired as an amateur and commercial operator, and his technical skills, which he had honed in his backyard workshop, to become the only significant manufacturer of amateur short-wave receivers in the 1920s. In the process, Grebe obtained experimental amateur licenses, 2XE and 2ZV, built his postwar factory into a showpiece of engineering excellence, and drew eventually upon his through background to develop the synchrophase line for the broadcast market.

From 1919 to 1923, starting at age 24, Grebe produced the CR-1 and a series of succeeding models based upon it. The CR-1 was a one tube, regenerative receiver with a wavelength range of 170 to 680 meters. All of the early CR models used the then common, external, circular dials of molded, polished, black Bakelite with 180 degree scales of 100 divisions. The CR-1 configuration was built around a rotary coupler with unit tap switches, two variometers, one in the grid circuit and one in the plate circuit, a filament rheostat, and a vacuum tube socket made of seamless brass tubing, which in some models was recessed in the center of the front panel.

Grebe's CR-5 was the first short- and long-wave receiver (150 to 3000 meters) to cover such an enormous range in a single circuit. It was tuned by an antenna series capacitor and a ten section inductance that was wound in series with the stator winding of a variometer. For strictly long-wave reception, Grebe offered the CR-7, an elaborate, three-tube receiver, with a 12" X 21" panel, which tuned from 500 to 20,000 meters. The CR-7 was the last of the series based on the CR-1, and like the latter, the detector tube socket was recessed in the front panel.

In 1923, at age 28 years, Grebe penetrated the shorter waves with the CR-13, which tuned from 300 meters (1,000 KHz) to 80 meters (3,750 KHz). The CR-13 featured two tubes, encompassing a stage of tuned RF amplification in front of a non-regenerative detector.³

By 1925, the CR-13 was succeeded by the two-tube CR-17, the first short-wave receiver of the series in which tuning and vernier dials were projected horizontally through 24 karat gold covered escutcheon plates. The CR-17 reached the market about the same time as the MU-1, and Grebe used many of the same components in the two receivers. The self-contained coils in the CR-17 covered from 30 to 110 meters. The TRF stage, which had proven to be so useful in the CR-13 was omitted. Oscillation and tracking problems were insurmountable at such short waves, since triodes were all that were available in 1925 for use in RF stages. The CR-17 was in actuality short-lived; Grebe engineers regarded it merely as a prototype of things to come.⁴ As a consequence, few CR-17s were manufactured. Any collector who comes unexpectedly upon a CR-17 should regard it as an exceedingly rare find (See accompanying picture).



The CR-17 evolved within a year into the CR-18, which soon became extraordinarily popular among amateurs. No other short-wave receiver

of the mid 1920s had so many advantages. The foundation of the CR-18, like that of its predecessor, was a two-tube receiver--a regenerative detector and one stage of transformer coupled audio amplification. The configuration offered exceptionally smooth control of regeneration, cushion sockets to eliminate microphonics, variable straight-line frequency condensers with vernier tuning, like the MU-1, and, significantly, to avoid the problems of single circuit tuning, plug-in coils that covered five wavelength ranges: 8.5 to 18, 15.8 to 31, 29 to 62, 56 to 112, and 107 to 216 meters (1,380 KHz to 35,000 KHz inclusively). A final version of the CR-18 added a stage of audio frequency amplification for operation of a speaker.⁵

Grebe manufactured his last receiver for the amateur market in 1928, at age 34. The advent of the screen grid tube, type 222, enabled him to produce the CR-19, a short wave receiver comparable in appearance and function to the CR-18, but with the added advantage of an RF stage. The CR-19 was developed for reception of both short-wave CW and short-wave broadcasting.⁶

By 1928, Grebe had ceased manufacturing the MU-1 in favor of single-dial, AC, synchrophase models. His name was associated now with superlative quality in households across America. His shortwave receivers had successfully inspired superior products for the broadcast market. The CR-19, however, proved to be an anachronism in the 1928-1929 amateur market. The addition of an RF stage to the CR-18 design failed to offset the fact that it was a battery-operated receiver with DC tubes that were in swift descent toward obsolescence. Grebe never once advertised that CR-19 in QST;

apparently, he pulled it off the production line almost as soon as he announced its availability. Nonetheless, the CR-19 may be the best short-wave receiver of the 1920s. Today, partly because of its scarcity, it commands the highest sale price of any of the CR models.

One can only speculate about what Grebe might have achieved had he concentrated, after introducing the CR-18, on developing the CR-19 as an AC, state-of-the-art version. Perhaps within a few more years Grebe would have created a short-wave receiver superior even to the great HRO of the mid 1930s? Unfortunately, Grebe did not have the opportunity. The Great Depression threw his company into disarray. In 1931, at age 36 -- an age at which many entrepreneurs are beginning their enterprises -- bankruptcy forced Grebe to yield to creditors his building and manufacturing equipment.

After maintaining for a few years a small research laboratory, Grebe prepared in 1935 to resume manufacturing as the A. H. Grebe Radio and Television Company. He was in the process of obtaining bank credit and when, following serious illness, a sudden coronary occlusion resulted in his untimely death at age 40. Not only the amateur community but the entire radio industry had lost precipitously one of its premier leaders.

References:

- 1 Batcher, R.R. (1925, April). The design of the Grebe synchrophase. QST, 9, 13-16.
- 2 Grey, G.J. (1965, May). The Grebe Story. CQ, 21, 36-39; Staff. (1936, January). Alfred H. Grebe. Radio, p. 32.

Building Best's Improved 45,000 Cycle Super-Heterodyne

By Carl Osborn W6RXP

Some time ago I was leafing through the May, 1925 issue of RADIO when I came across an article entitled "The Improved 45,000 Cycle Super-Heterodyne." Since I am intrigued with early superhets and have several in my collection, I read the article with great interest. The author made great claims for the set, including "excellent in selectivity, sensitivity, operating simplicity, and tone quality." As shown in the wiring diagram, eight tubes are used -- an oscillator, first detector or mixer, three stages of 45 kHz i.f., a second detector, and two stages of transformer coupled audio. With the low i.f. frequency, the same station can be received at two or three spots on the dial, but the author considered this a virtue, stating that "it is often very convenient to have two settings of the oscillator, in order to avoid interference from other stations." Most of the early superhets with low i.f. frequencies had this same problem, or virtue, including the early Radiolas.

When I reached the end of the article and went over the parts list, I realized that I had practically all the parts required, including the Remler i.f. transformers, oscillator coupler, and variable condensers. I decided to build the set, but first reviewed an earlier article in the November, 1924 RADIO and the original article in the May, 1924 RADIO.

The main changes from the original article were to use an '01A in the audio output stage, and a physical rearrangement of the parts. I decided to retain a 99 in the output stage to eliminate the need for two separate filament voltages, but otherwise constructed the set exactly as shown in May, 1925 article. Very complete information was given, including a pictorial wiring diagram, photographs, and a full-scale template for the front panel.

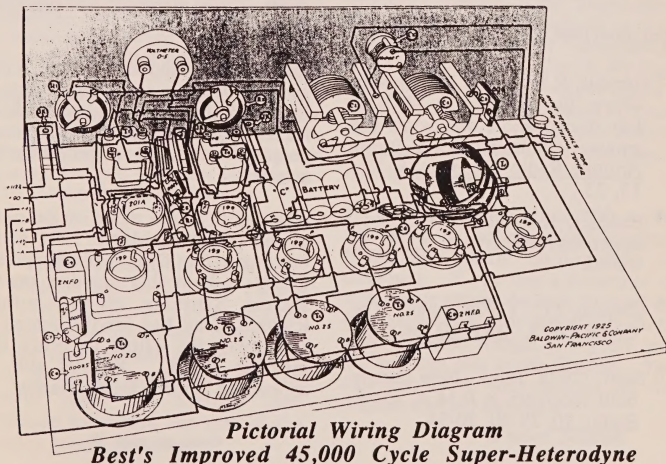
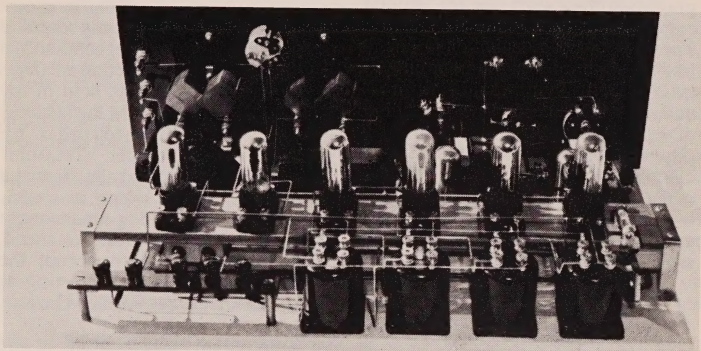
The bakelite panel was the most difficult item to locate, but was finally found in a surplus store. The base was made from one-half inch plywood. All of the tubes except the two audio tubes are mounted on a narrow wood shelf running the length of the base board in order to shorten the connections to the i.f. transformers. All the other parts came from my well-stocked junk box. With the pictorials and photographs in the article, it was easy to locate and mount the parts. Wiring proved to be a little trickier, since I had decided to use square bus-bar wire I had on hand. A fair amount of practice and some spoiled connections were required before I could make a connection with several bends in it and a nice loop at each end that would fit perfectly.

The radio was designed to use a loop antenna, but not having a loop, I made a simple antenna tuner and connected it to the loop terminals. To prevent overloading, a short (20 foot) antenna was used. The set worked as soon as the power supply was connected and turned on. Of course, no alignment was required, and the adjustment of the oscillator-coupler was non-critical. Results were



very satisfactory. At night, Boise, Idaho; San Antonio, Texas; Oklahoma City, Oklahoma; and Des Moines, Iowa were easily picked up. The west coast stations came in like locals. Although the audio quality leaves a little to be desired, the performance of the receiver is very good. The set was fun to build and gave me a good idea of the construction techniques of the early set builders.

The Best superhet was very popular with the set builders in the mid 1920's. It was named for Gerald M. Best, a radio engineer, who formed the Gerald M. Best Co. in San Francisco to exploit his designs. A wiring diagram and photograph of Best's original receiver can be found on pages 499 and 500 of the book "Radio Theory and Operation" by Mary T. Loomis, published in 1925. The circuit is almost identical to the one accompanying this article.



Minutes of Last Meeting

Cont. from page 8

the drivers was the same. In application at a home one can compare the average radio horn speaker and the average table model phonograph horn speaker and the findings are that the size, and length of the air column are similar. Therefore, the listening quality of the speech or music are comparable. In late 1925, however, a new class of phonographs with large, folded exponential horns were introduced. These phonographs contained horns as large as six feet in length, and nothing in the radio world equaled them. A quality radio receiver grafted onto one of the large horns of these new phonographs was an unbeatable combination, and offered a prediction of the quality of radio enjoyment which would be common in two or three years with the popularity of electrically amplified radios.



Cont. from page 13

- 3 Grinder, R.E. (1990, November). When the Grebe CR-13 first introduced short waves to the amateur community. California Antique Radio Gazette, 15, 12-13, 22.
- 4 Batcher, R.R. (1925, October). Short wave receivers. QST, 9, 33-36.
- 5 Clayton, J.C. (1926, June). The Grebe Cr-18. QST, 10, 24.
- 6 Staff. (1928, July). New factory built receivers at R.M.A. show. Radio, 10, 29-30, 50-54.

On Friday, the swapmeet was going strong by the "starting time" of 12:00 noon, and continued until dinner. After dinner, Bob Baumbach spoke on "The Beginnings of the Radio-Phonograph era", a most interesting talk about a very significant period. To close the evening, Chuck Strozier, Lowell Beezey and Bill Wysock demonstrated their large Tesla coils.

Saturday began with an early morning swapmeet and meeting registration. In mid-morning a junk auction of items donated to the club was held in the parking lot. At 11:30 AM the business meeting was called to order by president Chuck Strozier. Treasurer Murrel Crump outlined the financial status of the club, which is sound. Alan Smith, substituting for secretary Ed Sheldon who was unable to attend, asked for a motion to accept the minutes of the previous meeting as published in the November Gazette. M.S.P.

A list of new members was presented and elected.

Joe Knight announce that the "junk" auction, which was the suggestion of Jim Clark, had earned a total of \$175 for the club. The club thanks the many people who donated equipment for this auction.

Alan Smith gave a report on the status of the proposed March 1991 Mini-meeting in San Diego. It was decided to try to hold this meeting on the second Saturday of the month. Richard Gray has kindly agreed to spearhead the effort to bring this meeting about. Details will be announced in the February Gazette.

Cont. on page 19

Notes from and Ex-editor

Every job must come to an end. As editor of the Gazette for nine years I've served under six presidents and really enjoyed the assignment. I worked with David Stout four years and Joe Knight five years as co-editor. Joe and I attempted to give the membership a good Gazette with lots of articles and a variety of subjects. Perhaps we succeeded, but, a change of editors is overdue with new interests and different articles. With Bruce Stark becoming a new editor I'd be surprised if we didn't see a few articles on tubes surfacing. Joe Knight stays as editor and I truly think you'll be happy with the shift in emphasis from horn speakers to tubes.

Please give Bruce and Joe your support. Offer articles, comments, and suggestions to either Joe or Bruce.

F. Paul

1990 Houck Award

One of SCARS active old timers was selected by the AWA Houck Award Committee to receive the Houck Documentation Award for 1990. The AWA annual meeting sight in Rochester, N.Y. was the location.. Morgan McMahan was the recipient. Morgan's several important books on early radio were the celebrated reason. SCARS thinks AWA made an excellent choice in choosing Morgan for this prestigious award. Congratulations Morgan.

NEW MEMBER POLICY

Membership in SCARS follows the current calendar year. Anyone joining during Jan.-Sept. is enrolled for the current year and is sent all back issues of the *Gazette* for the current year. The member then continues to receive the rest of the current year's *Gazettes*.

Applicants for membership after Sept. are enrolled as members for the following year. They receive a notice of the year end meeting as well as other current club announcements and are told they will commence receiving *Gazettes* during the next year.

Readers Write!

Our Gazette has had many fine articles over the years, but only because they were written and contributed by our club members. We need new articles and we know that each one of you possess enough knowledge on some specialty to write an article that we will all enjoy. We don't want to limit articles strictly to radios, so we invite articles on related subjects as well. Here is a listing of subjects based on what we see members buying and selling at our meets:

Military - Foreign - Ham - Transistors - Novelty radios - Television - Test Equipment - Telephones - Advertising - Keys - Antennas - Quack Medical Equipment - Tubes - Light Bulbs - Magazines - Books - Manuals - Crystal Sets - Head Sets - Speakers - Record Players - Restoration - Microphones - Audiophile - etc.....

Articles should be about 800 words and must be accompanied by good black and white photographs or drawings. If you use a computer to write your article, be sure to send the disk as part of your submittal! Send articles to Joe Knight or myself, and we will see you in the Gazette. You can also FAX your articles for the Gazette to (818) 845-7808.

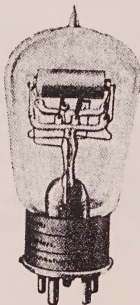
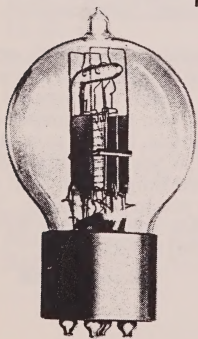
Bruce Stark



Past and Present Club Officers

Robert Baumbach, Chuck Strozier, Ed Sheldon, Dan Mason, Moran McMahon

Floyd Paul, Arlo Myers, Murrel Crump



Do it Electrically

*When milli Ampere first saw Volt
Her charms past all resistance
A spark coiled in his heart poor colt-
He needed prompt assistance
And she, tho plighted to old Watt,
Could alternate affection,
So let her eye bolt glances hot,
Right in poor Volt's direction.
The current of Watt's wrath flowed strong!
He vowed Volt should not meter.
For daughter Poly Phase had long
Hoped that Volt would be sweeter.
And so to Milli Ampere, he
A stern note did transmitter,
requesting she transform, and be,
If possible, less bitter.
So Milli Ampere flirted not,
But knew that it was wise
To regulate the rage of Watt
And with him synchronize.
Then Volt with Poly Phase did fuse-
From her he did not roam.
They rectified divergent views
And started a small Ohm.*

By W. F. Leggett, in
Western Electric News
as reprinted in
Electrical Experimenter
March, 1919

Cont. from page 16

Walt Curry gave an interesting talk on transistor radios, showing some of the first transistor radios and transition sets.

Presentation of awards was then made. Chuck Strozier presented the president's award to Mary Curry for her outstanding efforts in behalf of the club. Alan Smith, acting for awards chairman Ed Sheldon, presented the awards for historical documentation to George H. Fathauer, and Robert E. Grinder. The award for collection and preservation was made to Jerry Simpson.

The election of officers and directors for the next year was then held. The following officers were elected:

President, Bob Baumbach
Vice President, Joe Knight
Secretary, Pam Davies
Treasurer, Murrel Crump
Membership Secretary, Dan Mason

In addition to the officers, the directors for 1991 are: Bruce McCalley, Bruce Stark, Morgan McMahon, Arlo Myers, and Ed Sheldon.

Co-editors of the Gazette for 1991 are: Bruce Stark and Joe Knight. David Stout was appointed club historian to replace Paul Thompson who is retiring with the club's thanks for a job well done. The meeting was then adjourned, and lunch was served. During lunch, equipment that had been gathered for a "silent auction" was available for examination. In this auction, bidding sheets were placed with each auction item and bidders wrote the amount of their bids on the sheets. Ten percent of the proceed of this auction go to the club.

Results of the silent auction were then announced, and the meeting was adjourned.

Many thanks to Arlo Smith who took notes and prepared these minutes.

Ed Sheldon, Secretary



For Sale or Trade & Want Ads



ADS MUST BE SUBMITTED EACH TIME FOR EACH PUBLICATION AND ARE FOR PERSONAL USE ONLY. SCARS WILL NOT PRINT REPETITIOUS ADS. ALL ADS ARE SUBJECT TO EDITING. SCARS IS NOT RESPONSIBLE FOR ANY TRANSACTION OR THE CONDITION OF ITEMS ADVERTISED.

FOR SALE: Scott Phantom Deluxe FM-AM record player/recorder. Chippendale Grande cabinet, very heavy! \$1,200. WANTED: Scott Warrington console. Arthur Johnson. (213) 925-5853

WANTED: 3 good UV 199 tubes. Don Bolton 4875 E. Maychell Dr. Anaheim CA 92807 (714) 974-4054

WANTED: Gilfillan molded parts of the 20's. Parts in boxes desirable, but not mandatory. Also want 1932 & 1933 radio magazines. Floyd Paul 1545 Raymond Ave. Glendale CA 91201 (818) 242-8961

WANTED: AM-FM radios from the 40's, 50's and early 60's. Prefer flywheel types made by RCA or Zenith. Can be Bakelite or wood, working or not. Frank Conti (818) 892 9692

WANTED; 2 bee hive type stand off insulators, approximately 1.5" high and a 1.5" diameter. Crosley interstage audio transformer as in the 50 series, open winding OK. 2 W.E. 205 tubes. 1920-1930 "B" battery eliminators. Tod Drogoski 507 Coal Valley Rd. Clairton PA 15025 (412) 466-5950

WANTED: Radio retailing magazines. Doug Heimstead 1349 Hillcrest Dr. Fridley, MN 55432 (612) 571-1387

WANTED: Will pay top dollar for the following CONSOLE radios! Zenith 8S593, Zenith 8S594, Philco 42-1012, Philco 42-1013 and Philco 42-1016. Also need Hammarlund schematic book. Still looking for a magnetic coil winding machine. Dan Healy P.O. Box# 764 Woodacre, CA 94973 (415) 488-4596

WANTED: RCA Victor 12812 or 8 valve, also other RCA Victor tombstones. Canadian RCA Victor 9T-1 8 valve chassis wanted or complete radio. 1936 RCA model 13K 4 band chassis. Eddie Maddocks 42 New Illawarra Rd. Bexley North. N.S.W. Australia 2207 (02) Phone (02) 505085

WANTED: Philco items. Looking for home radio literature, advertisements (clocks, pictures, signs etc.) or anything relating to early Philco. Robert Schrantz 610 East Juanita Ave. San Dimas, CA 91773 (714) 394-1194

FOR SALE: Grandfather clock radio. Jackson Bell model 88 with a brass clockface. Works! \$525 Neutrowound Super "6" 1926 \$325. Chuck Lovejoy (805) 484-3339

WANTED: Mitchell transistor radios Model 1101, 1102 and 1103. Any condition. P.J. Roach, 8640 E. Florence Ave., Downey, CA 90240 (213) 927-0936

WANTED: "Tone-Beam" lamp for an AK model 612 console. AK model "R" horn (good physical condition except for the paint). HP #5083-4052 CRT for HP model 1710B scope (good operating condition). Sam Wrenn 2314 Seminole Dr. #1207 Arlington, TX 76010

TRADE: Early transistor radios by Zenith, Emerson, Sony, novelties, etc. WANTED: Transistor radios from Japan or U.S. working or not. Eric Wrobbe, 20802 Exhibit Court, Woodland Hills, CA (818) 884-2282

WANTED: Old meters/galvo's, scientific instruments working or not, before 1925. Will trade for repair/replacement of your old meters or cash outright. Ye olde meter cellar. Leonard Cartwright, 113 Sea Terrace Way, Aptos, CA 95003 (408) 662-2977

WANTED: AK 55, Zenith 50 or other screen grid TRF receiver to restore for my collection. Lamp hood for a Radiola 18. Dave Dameron 819 Boundary Pl. Manhattan Beach, CA 90266 (213) 318-5311

FOR SALE: Set of 18 Riders radio manuals, volumes 1,2,16,19,&23 missing. Also have extra volumes 3,8,9,11&12. All mint condition. Also spare index's and 32 spare ARRL handbooks (1941 thru 1969. SASE for list. WANTED: Pre 41 ARRL handbooks. WA7IHN Bob Schafer Box # 442 Aumsville, OR 97325 (503) 749-1149 evenings.

WANTED: Dial glass for a red-band Scott Philharmonic. (Will purchase entire chassis if necessary). Also seeking a Zenith Stratosphere 25-tube console radio. Jim Clark 1292 Starboard Okemos, MI 48864 (517) 349-2249

TRADE: CN 113A Navy receiver, SE 1012 Navy receiver, B.C. 7A Army transmitter-receiver, SE 1340 Navy transmitter for NC-4 flying boats. Write for details. Carl Osborn W6RXP 140 Blue Jay Dr. Sedona, AZ 86336

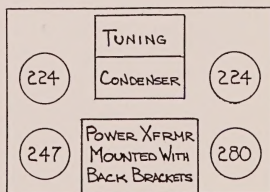
WANTED: Cabinet for an A-K Model # 165 (Page #66 FOS). Paul Gruber 14823 Janine Dr. Whittier, CA 90605 (213) 693-2837

WANTED: Myers RAC3 mounting socket that was made in Canada. Still need a G.E. Type "CA" Pilotron. Bruce Stark 14841 Archwood St. Van Nuys, CA 91405 (818) 988-5478

WANTED: I need photographs and other illustrations from your country of unusual, odd and beautiful radio designs for my new book, "RADIO ART". Professional colour photographs or transparencies are preferred and I'll be glad to pay any costs involved. Robert Hawes 63 Manor Rd. London N170JH United Kingdom

FOR SALE: Homemade galena crystal receivers. 3 x 4 x 8 " rare wood cabinet. Panel is red plastic, white filled engraving. Also galena crystals, cat whiskers, and other related crystal receiver parts. Write. L. Gardner, 458 Two Mile Creek Road, Tonawanda NY 14150 (716) 873-0447

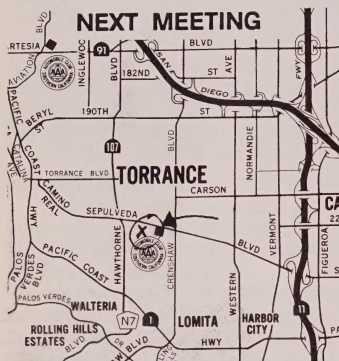
WANTED: Chassis for a Jackson-Bell 84 (It may have a Gilfillan label) Richard Gray 9181 Chesapeake Dr. San Diego, CA. 92123 (619) 560-4162



Upcoming SCARS Meets:

February 9, 1991

VELVET TURTLE
3210 West Sepulveda Blvd.
Torrance, CA



First San Diego Mini-Meet!

March 9, 1991
619-278-0800
Ramada Inn
5550 Kearny Mesa Road
San Diego, CA 92111

Agenda:

- 7:00 AM Buy, sell and trade activities
- 11:00 AM "Show and Tell" in the banquet room. Bring your most interesting gear for others to judge.
- 12:00 Noon Lunch and results of "Show and Tell".
- 1:30 PM Have fun elsewhere while you are in San Diego.

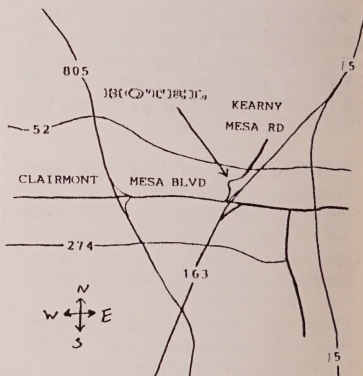
The Ramada Inn is offering a special rate of \$55 (single) or \$59 (double) for SCARS members (mention the club to get this special rate.)

Lunch will be served in the hotel's banquet room. Send your reservations and check for \$9.75 per person to Richard Gray at 9181 Chesapeake Dr., San Diego, CA 92123 (619) 560-4162 by March 1.

Come to this special meet and meet the local collectors. Note: much of the junk which will be at this meet has never been seen in Torrance! Think of the possibilities!

If this meet is popular, future mini-meets of this type will be planned, so support you club and come to San Diego.

NOTICE: ONLY SCARS MEMBERS CAN SELL AT SCARS MEETS



GAZETTE DEADLINES

All ads, material and articles for SCARS Gazette:

- February issueDecember 1
- May issueMarch 1
- August issueJune 1
- November issueSeptember 1